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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/615,801

07/10/2003

Hiroyasu Sato

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1911

21369 7590 07/23/2008

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EXAMINER

TOOMER, CEPHIA D

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

07/23/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/615,801	<b>Applicant(s)</b> SATO, HIROYASU	
	<b>Examiner</b> Cephia D. Toomer	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-10 is/are rejected.
- 7) ☒ Claim(s) 11-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office action is in response to the amendment filed April 23, 2008 in which claims 4, 6 and 8 were amended and claims 11-16 were added.

The rejection of claim 6 under 35 U.S.C. 112, second paragraph is withdrawn in view of the amendment to the claims.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Voogd (US 3,606,868).

Voogd teaches a process and system for preparing an emulsion of water and gasoline (see abstract). Voogd uses an internal combustion engine wherein the fuel system is adapted to receive an emulsion of water in gasoline to the engine, the system including means for storing gasoline and water, an emulsifying chamber (mixing tank), volume control means connected between the storage means and the emulsifying chamber for delivering to the emulsifying chamber controlled volumes of gasoline and water, means disposed within the emulsifying chamber for emulsifying the water in the gasoline, carburetor means having a fuel chamber in communication with the emulsifying chamber, means for delivering the emulsion from the emulsifying

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chamber to the carburetor fuel chamber where it accumulates, and means for continuously providing uninterrupted recirculation of a portion of the emulsion accumulated in the carburetor fuel chamber to the emulsifying chamber to prevent the gasoline and water from separating as they accumulate in the carburetor fuel chamber (see claim 1). Since gasoline and water are immiscible, they would normally maintain a separated condition in the tank, with water on the bottom and gasoline on top (see col. 3, lines 66-69). In use, a mixture of water and gasoline is pumped to the lower portion of the emulsifying tank through inlet port 26. The gasoline and water are drawn upwardly through draft tube 36 into the center of propeller stirrer 30 by the suction created from the rotation of the stirrer 30. As the gasoline and water are continuously pumped into the lower portion of the emulsifying tank, the stirrer 30 discharges the liquid at its periphery, throwing it in an upward direction so as to emulsify the water in the gasoline. The emulsion is thrown toward the deflector 40 to channel the emulsion to the second stirrer 38 which in turn circulates the emulsion upwardly and outwardly toward outlet port 42. The emulsion flows through discharge line 44 into carburetor 28 to mix the emulsion with air in proper proportions in a conventional manner. The resulting fuel charge is drawn into the engine cylinder head through a fuel line 48 leading from the carburetor to the engine. The emulsion in the emulsifying tank and in the carburetor fuel chamber tends to separate upon standing idle. To avoid this problem, a return line 50 connects the lower portion of the carburetor fuel chamber to an inlet port 52 at the bottom of emulsifying tank 29. During operation of the engine, the centrifugal action of the emulsifier sucks the fuel mixture in the lower portion of the

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carburetor fuel chamber back to the emulsifying tank through return line 50 to continuously recirculate the gasoline and water mixture so that partially separated gasoline and water is not introduced into the engine (see col. 4, lines 25-42). The fuel pump 16 controls the flow through the emulsifier 55 so that the amount of fuel returned from the carburetor is proportional to the amount of emulsion introduced into the carburetor fuel chamber through line 44. The system is adapted to prevent partially separated gasoline and water from being introduced into the engine when the automobile engine is initially started. The ignition system is adapted to operate the motor prior to starting the automobile engine to re-emulsify the water in the gasoline within the emulsifier and to circulate through return line 50. Other means for continuously maintaining the gasoline and water in its emulsified condition also can be used in conjunction with the system without departing from the scope of his invention, such as, FIG. 2 shows an alternative fuel system 52 including a conventional gasoline storage tank 54 for storing a mixture of gasoline with dissolved emulsifier, and a separate storage tank 56 for storing deionized water. See Fig 1 and 2; col. 4, lines 54-75. Voogd teaches the limitations of the claims other than the differences that are discussed below.

Voogd does not specifically teach a processing means. However, since Voogd teaches a propeller 30, paddle 38 and carburetor, it would appear that any of these components would perform the processing means. Voogd clearly teaches recirculating and remixing the fuel mixture and this teaching suggests reducing the cluster sizes of the fuel and water.

3. Applicant's arguments have been fully considered but they are not persuasive.

Applicant argues that Voogd teaches a continuous recycling process whereas the present invention is a series of batch processing steps.

It is well settled that the courts have held a batch operation would have been obvious in light of the continuous process of the prior art.

Applicant argues that Voogd does not disclose or suggest a process including the use of both a mixing tank and processing tank.

Voogd teaches a propeller 30, paddle 38 and carburetor, it would appear that any of these components would perform the processing means. Voogd clearly teaches recirculating and remixing the fuel mixture and this teaching suggests reducing the cluster sizes of the fuel and water. No where in the claims is it stated that the processing means is a separate tank. It is clear from reading Voogd that the above components of his invention perform the processing means.

4. Claims 11-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to teach or suggest that the processing means includes at least one plate having holes therein.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cephia D. Toomer/  
Primary Examiner  
Art Unit 1797

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